

## Part A. Personal Information

<b>DATE</b>	9 November, 2019
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Surname(s)	Arroyo Marín	
Forename	Juan	
Sex	Male	
Researcher codes	WoS Researcher ID (*)	J-2562-2012
	SCOPUS Author ID(*)	
	Open Researcher and Contributor ID (ORCID)	0000-0003-4749-2519

(\*) At least one of these is mandatory

### A.1. Current position

Post/ Professional Category	Full Professor, Botany	
UNESCO Code	2417 (2415)	
Key Words	Biogeography; Evolution; Phylogeny; Reproductive Systems; Biodiversity; Conservation, Plant Biology	
Name of the University/Institution	Universidad de Sevilla	
	Department/Centre	Plant Biology and Ecology, School of Biology
	Full Address	Av. Reina Mercedes s/n, 41012 Sevilla (Spain)
	Email Address	arroyo@us.es
	Phone Number	+34 954 557 058
Start date	2006 (as full Professor, 1981 as assistant professor)	

### A.2. Education (title, institution, date)

Year	University	Degree	Title
1981	Seville	BSc degree	BSc Biology
		Masters (if appropriate)	
1985	Seville	PhD	PhD Biological Sciences

### A.3. Indicators of Quality in Scientific Production (See the instructions)

Six-year research ("Sexenios") granted: 5 (last in 2012-2017)  
 PhD Theses in the last 10 years: 6  
 WoS/ISI metrics until November 9, 2019:  
 142 scientific publications; 87 in JCR, most in Q1  
 h=32 (WoS/ISI); h=41 (Scholar) hi10= 86 (Scholar)  
 Times cited without self-citations= 2315 (WoS), 4680 (Scholar)  
 Average citations/article: 38.7

## Part B. Free Summary of CV (Max. of 3.500 characters, including spaces)

I started and developed my scientific career at the University of Seville, where I got my PhD degree with honor prize. Later on I devoted all my teaching and research duties at this University, with some short posdoct and research leaves to Israel, Canada, México, Cuba and Brazil. Since 1997 (except for a period of 7 yr) I've been responsible for the research group "Ecology, Evolution and Conservation of Mediterranean Plants" <http://grupo.us.es/grnm210/web/>) granted by the Andalusian Regional Government. I've been associated editor of "Plant Biology" journal (Wiley), for the topics "Plant reproductive ecology, mating system evolution, plant-animal interactions, biogeography". I was guest editor of a special issue of Plant Biology (vol. 20 suppl. 2018, 22 papers) and of Environmental and Experimental Botany (january 2020). I am also member of the Managing Board of Peer Community in Evolutionary Biology, and of "Italian Botanist". I acted as regular reviewer for about 40 JCR journals (average 30 MSs/yr) like Ecology Letters, Evolution, New Phytologist,

J. Biogeography, Annals of Botany, etc. I have received postdocs from Juan de la Cierva (5), Ramón y Cajal (1), foreign young researchers (2) programmes of MINECO and CONACYT sabbatical stays (2). Since 1997 I have regularly acted as panel member of the ANEP and since 2006 as an Expert Member panel of the Spanish R+D+i (CGL-BOS) committees for research grants, and also for National Parks Authority, ECODOCA-European Union, CYTED, Extremadura, Balearic Island and Valencia regional governments and BBVA foundation. I have been reviewer of grant and job proposals for foreign research agencies: ESF, ERC, NWO-Netherlands, ANRFrance, CONYCET-Argentina, BES-UK, FNP-Poland, CIRCLE-UE, CNCS-Romania, FWOBelgium-ESF, NERC-UK, Royal Society-UK, FNRS-Belgium, University of Plymouth, Academy of Sciences-China. I have acted in about 40 PhD committees in Spain, UK, Italy and Portugal and committees for research and academic jobs at CSIC and Universities. I have been invited for about 21 seminars and talks in international symposia and workshops. I have been chair of 3 international symposia. I have been PI of 21 competitive research grants, including 10 grants from the National Plan of R-D+i (in 2 of them I acted as coordinator). I have been advisor for 11 PhD students already finished. Research topics. After an initial interest in community ecology during my PhD thesis, I moved to plant reproductive ecology and evolution, and shortly after, to historical plant biogeography. I have kept the two last topics during my career, and recently I merged them trying to understand the evolutionary mechanisms building up biodiversity hotspots.

## Part C. Relevant accomplishments

### C.1. Publications (2015-19)

1. Molina-Venegas, R., Aparicio, A., Slingsby, J. A., Lavergne, S., Arroyo, J.\* (2015). Investigating the evolutionary assembly of a Mediterranean biodiversity hotspot: deep phylogenetic signal in the distribution of eudicots across elevation belts. *Journal of Biogeography* 42: 507–518. 2. Santos-Gally R., de Castro A., Pérez-Barrales R., Arroyo, J.\* (2015). Styler polymorphism on the edge: unusual flower traits in Moroccan *Narcissus broussonetii* (Amaryllidaceae). *Botanical Journal of the Linnean Society* 177: 644–656. 3. Simón-Porcar V.I., de Castro A., Herrero M., Arroyo J.\* (2015). Ovarian self-incompatibility in *Narcissus papyraceus* (Amaryllidaceae) is due to a pre-zygotic response. *Botanical Journal of the Linnean Society* 177: 629–643. 4. Simón-Porcar V.I., Picó, F.X., Arroyo J.\* (2015). Range-wide population genetics and variation in morph ratio in style-dimorphic *Narcissus papyraceus* (Amaryllidaceae). *American Journal of Botany* 102: 449–456. 5. Valiente-Banuet A., Aizen M.A., Alcántara J.M., Arroyo J., Cocucci A., Galetti M., García M.B., García D., Gómez J.M., Jordano P., Medel R., Navarro L., Obeso J.R., Oviedo R., Ramírez N., Rey P.J., Traveset A., Verdú M., Zamora R. (2015). Beyond species loss: the extinction of ecological interactions in a changing world. *Functional Ecology* 29: 299–307. 6. Simón-Porcar V.I., Meagher T.R., Arroyo J.\* (2015). Disassortative mating prevails in style-dimorphic *Narcissus papyraceus* despite low reciprocity and compatibility of morphs. *Evolution* 69-9: 2276–2288. 7. Valverde P.L., Arroyo J., Núñez-Farfán J., Castillo G., Calahorra A., Pérez-Barrales R., Tapia-López, R. (2015). Natural selection on plant resistance to herbivores in the native and introduced range. *Annals of Botany, Plants* 7: plv090; doi:10.1093/aobpla/plv090. 8. Molina-Venegas R., Aparicio A., Lavergne S., Arroyo J.\* (2015). The building of a biodiversity hotspot across a land-bridge in the Mediterranean. *Proceedings of the Royal Society B* 282: 20151116. 9. Molina-Venegas R., Aparicio A., Lavergne S., Arroyo J.\* (2016). How soil and elevation shape local plant biodiversity in a Mediterranean hotspot. *Biodiversity and Conservation* 25:1133–1149. DOI 10.1007/s10531-016-1113-y. 10. Ferrero V., Barrett S.C.H., Rojas D., Arroyo J., Navarro L. (2017). Associations between sex-organ deployment and morph bias in related heterostylous taxa with different styler polymorphisms. *American Journal of Botany* 104:50-61. 11. Molina-Venegas R., Aparicio A., Lavergne S., Arroyo J.\* (2017) Climatic and topographical correlates of plant palaeo- and neoendemism in a Mediterranean biodiversity hotspot. *Annals of Botany* 119: 229–238. 12. Aparicio A., Martín-Hernanz S., Parejo-Farnés C., Arroyo J., Lavergne S., Yeşilyurt E.B., Zhang M.L., Rubio E., Albaladejo R.G. (2017). Phylogenetic reconstruction of the genus *Helianthemum* (Cistaceae) using plastid and nuclear DNA-sequences: Systematic and evolutionary inferences. *Taxon* 66: 868-885. 13. The XIV MEDECOS and XIII AEET Consortium. (2017). Present and future of ecological and evolutionary research in Mediterranean-type ecosystems: Conclusions from the last International Mediterranean Ecosystems Conference. *American Journal of Botany* 104:1–6,

<http://www.amjbot.org/cgi/doi/10.3732/ajb.1700367>. **14.** Arroyo J.\*, Thompson J.D. (2018). Plant reproductive ecology and evolution in a changing Mediterranean climate. *Plant Biology* 20 (S1): 3-7. **15.** Ruiz-Martín J., Santos-Gally R., Escudero M., Midgley J.J., Pérez-Barrales R., Arroyo J.\* (2018). Style polymorphism in *Linum* (Linaceae): a case of Mediterranean parallel evolution?. *Plant Biology* 20 (S1): 100-111. **16.** Jiménez-Lobato V., Martínez-Borda E., Núñez-Farfán J., Valverde P.L., Cruz L.L., López-Velázquez A., Santos-Gally R., Arroyo J.\* (2018). Changes in plant mating system during the colonisation of Mediterranean-climate regions of Spain by *Datura stramonium*. *Plant Biology* 20 (S1): 214-223. **17.** Pérez-Barrales R., Abarca C.A., Santos-Gally R., Schiestl F.P., Arroyo J.\* (2018). The function of the floral corona in the pollination of a Mediterranean style dimorphic daffodil. *Plant Biology* 20 (S1): 118-127. **18.** Simón-Porcar V.I., Escudero M., Navarro L., de Castro A., Lorite J., Molina-Venegas R. and Arroyo J.\* (2018). Using floristics, modern systematics and phylogenetics for disentangling biodiversity hotspots across scales: a Mediterranean case study. *Plant Biosystems* 152:6,1293-1310. **19.** Simón-Porcar V.I., Abdelaziz M., Arroyo J.\* (2018) El papel de los polinizadores en la evolución floral: una perspectiva mediterránea. *Ecosistemas* DOI: 10.1080/11263504.2018.1445131. **20.** Molina-Venegas R, Aparicio A, Lavergne S, Arroyo J (2018) Soil conditions drive changes in a key leaf functional trait through environmental filtering and facilitative interactions. *Acta Oecologica* (2018), 86: 1-8. **21.** Arroyo J (2018) Sometimes, sex is in the head. *Peer Community in Evolutionary Biology* (2018) 100069. **22.** Martín-Hernán S., Martínez-Sánchez S, Albaladejo RG, Lorite J, Arroyo J, Aparicio A. Genetic diversity and differentiation in narrow vs. widespread taxa of *Helianthemum* (Cistaceae) in a hotspot: the role of geographic range, habitat and reproductive traits. *Ecology and Evolution* (2019) ;9:3016–3029. **23.** Barranco D, Simón-Porcar VI, Arroyo J. Characterization of microsatellite markers for *Narcissus dubius*, *N. cuatrecasasii*, *N. assoanus* and *N. rupicola* (Amaryllidaceae). *Plant Genetic Resources: Characterization and Utilization* (2019) 17(3); 285–288. **24.** Barranco D, Arroyo J, Santos-Gally R. Avoiding sexual interference: herkogamy and dichogamy in style dimorphic flowers of *Narcissus broussonetii* (Amaryllidaceae). *AoB PLANTS*, (2019), doi:10.1093/aobpla/plz038. **25.** Castillo G, Calahorra-Oliart A, Núñez-Farfán J, Valverde PL, Arroyo J, Cruz LL, Tapia-López R. Selection on tropane alkaloids in native and non-native populations of *Datura stramonium*. *Ecology and Evolution* (2019); 9:10176–10184. **26.** Jiménez-Lobato V, Escudero M, Díaz-Lifante Z, Andrés Camacho C, de Castro A, Mansion G, Zeltner L, Arroyo J. Evolution of reproductive traits and selfing syndrome in the sub-endemic Mediterranean genus *Centaurea* Hill (Gentianaceae). *Botanical Journal of the Linnean Society* (2019) 191, 216–235. **27.** Hortal J, Arroyo J. One (more) step towards a dynamic view of the Latitudinal Diversity Gradient. *Peer Community in Evolutionary Biology* (2019) 100068. 10.24072/pci.evolbiol.100068. **28.** Médail F, Monnet AC, Pavon D, Nikolic T, Dimopoulos P, Bacchetta G, Arroyo J, Barina Z, Cheikh Albassatneh M, Domina G, Fady B, Matevski V, Mifsud S, Leriche A. What is a tree in the Mediterranean Basin hotspot? A critical analysis. *Forest Ecosystems* (2019) 6: 17. **29.** M Verdú, JG Pausas, J M Postigo-Mijarra, E Barrón, M Casas-Gallego, J Arroyo, JS Carrión. Phylogenetic diversity in the Iberian flora through the Cenozoic. *Environmental and Experimental Botany* (2019). j.envexpbot.2019.103888

#### Book chapters:

2. Molina-Venegas R., Simón-Porcar V.I., Navarro L., de Castro A., Aparicio A., Lavergne S., Lorite J., González-Albaladejo R., Martínez-Sánchez S., Escudero M., Arroyo J.\* (2017) Desentrañando la historia y evolución en el principal "hotspot" de biodiversidad vegetal ibérica. Una aproximación multiescalar en el Parque Nacional de Sierra Nevada. *Investigación en Parques Nacionales*. MAGRAMA, OAPN, Madrid (ISBN: 978-84-8014-898-6)

### **C.2. Research Projects and Grants (2015-19)**

#### Projects leaded as PI at national level:

1. Conflicts and separation of sexes: effects of herkogamy on the reproductive system of hermaphroditic plants (CGL2013-45037-P) Funding Agency: MINECO. Period: 01-01-2014 to 31-12-2017 Funds: 250.000€
2. Variation in reproductive systems across biogeographical and ecological gradients. Adaptation to progressively stressful environments (PGC2018-099608-B-I00). MICINN. Period: 2019-2021. Funds: 245.000€
3. Biogeography, evolution, ecology and conservation of the Andalusian flora (EVOFLORAND) (FEDER-US 1265280). Period: 1-1-2020 to 31-12-2021. Funds: 80.000€

#### Participation in international projects:

1. Servicios ecosistémicos de polinización y dispersión en áreas naturales protegidas (SEPODI). Funding Agency: CYTED. Period: 2017-2020. PI: Mauricio Quesada (UNAMCIECO Morelia, México).
2. Interacciones ecológicas como indicadores de gestión en áreas naturales protegidas (INTERGAP) Funding Agency: CYTED. Period: 2018-2021. PI: Rodrigo Medel (Univ. de Chile)
3. Origine et congruence des patrons de diversité taxonomique, phylogénétique, fonctionnelle et paléoécologique: la biodiversité des arbres en Méditerranée européenne (WOODIV). Funding Agency: Fondation pour la Recherche sur la Biodiversité (FRB) Period: 2015-2018. PI: Dr. Agathe Leriche (Univ. Aix-en-Provence)
4. Harmonizing Global Biodiversity Modelling (HarmBio) (ES1011). Funding Agency: European Union, COST Action. Period: 2012-2016. PI: Dr. Paul Leadley (MHN, Paris)

#### **C.3. Contracts**

#### **C.4. Patents and other IPR**

#### **C.5, C.6, C.7... Other**

##### C.5. Membership of Scientific Societies:

Botanical Society of America, Society for the Study of Evolution, European Society for the Study of Evolution, International Biogeographical Society, Asociación Española de Ecología Terrestre, Sociedad Española de Biología Evolutiva (Council), Peer Community in Evolutionary Biology (Founding Managing Board).

##### C.6. Teaching and Academic Coordination

Vice-Dean for Research and Postgraduate Studies, School of Biology, University of Seville (2011-2014).

Coordinator of MSc on Evolutionary Biology (University of Seville; 2010-2012), PhD Programme in Integrative Biology (University of Seville; 2013- 2019). Member of the Academic Committee of the MSc on Advanced Biology (University of Seville; 2013-present) and PhD Programme in Integrative Biology (since 2013).

##### C.7. Advisorship of PhD Theses

Eleven PhD theses supervised in total, and 6 PhD theses ongoing by means of FPU, FPI, CONACYT, AECl, FCT (Portugal) and Univ. of Seville fellowships.

Former PhD students got positions as permanent researchers (Univ. of Cádiz, INRA France, Univ. of Portsmouth), postdocs in other countries (CONACYT, Univ. of Bern) or researchers in European programs (Marie Curie, Plant Fellows).

PhD students graduated in last five years: J. Ruiz-Martín (2017)

##### C.8. Participation in Scientific Meetings (2015-2019)

Invited speaker in international scientific events: Seminars of the Sociedad Cubana de Botánica, La Habana (Cuba) 2015; III INTERNATIONAL PLANT SCIENCE CONFERENCE (IPSC). Roma 2016; Seminars of the Instituto de Biología, Universidade de Minas Gerais, Belo Horizonte (Brasil) 2017; XIX International Botanical Congress. Shenzhen (China) 2017; Organizer and Scientific committee membership; MEDECOS XIII Conference. Olmué (Chile) 2014; 4º Congreso Ibérico de Ecología (SPECO-AEET). Coimbra 2015. SESBE VI (Palma, 2018); President of the Organizing Committee: MEDECOS XIV Conference & AEET XIII. Sevilla 2017 (Chair), SESBE VII (Sevilla, 2020).

#### **C.9. Fama-2018 University of Seville prize for acknowledgement of the scientific research activities**



## Instructions

### Important Announcement

Following the Call for Proposals, **ONLY CVS SUBMITTED IN THIS FORMAT WILL BE TAKEN INTO CONSIDERATION. CVs presented in other formats WILL BE DISMISSED with no possibilities for modifications.**

### **GENERAL CONSIDERATIONS**

Following the call it is mandatory to use the following format when filling the document: Font Times New Roman / Arial (minimum size 11), single interlineal space, lateral margins of 2.5 cm and top and bottom margins of 1.5 cm.

Max. length of the whole document (Part A, B and C) cannot exceed four pages.

### **PART A. PERSONAL INFORMATION**

**Researcher ID** is a unique identifier that consists of alphanumeric characters that enable researchers to manage their publication lists, track their times cited counts and h-index, identify potential collaborators and avoid author misidentification. It is hosted by Web of Science.

Access: Web of Science > My Tools > Researcher ID.

**Author ID** is a unique identifier that consists of alphanumeric characters that enable researchers to manage their publication lists, track their times cited counts and h-index, identify potential collaborators and avoid author misidentification. It is assigned automatically by SCOPUS. You can find an author identifier by running a search for that author. It will appear underneath the author details.

Access: SCOPUS > Author Feedback Wizard> Researcher name.

**Open Researcher and Contributor ID (ORCID)** provides a persistent digital identifier that distinguishes the researcher from every other person and, through integration in key research workflows such as manuscript and grant submission, supports automated linkages between you and your professional activities ensuring that your work is recognized.

Access: [www.orcid.org](http://www.orcid.org)

### **A.3. Indicators of Quality in Scientific Production**

Please add information on a) total number of citations, average number of citations during the last five years, b) total number of publications in the first quartile (Q1) and first decile (D1), c) h-index, d) thesis supervised, and e) any other indicators that you may consider relevant.

To calculate these values, use default data collected in the Web of Science or Scopus. When this is not possible, other indicators may be used, specifying the reference database.

### **PART B. FREE SUMMARY OF CV** *(Max. of 3.500 characters, including spaces)*

Describe briefly your scientific career, the main scientific-technical achievements, and the mid-to-long term scientific-technical interests and objectives of your research agenda. Indicate any other aspects that you may consider important to understand your career path.

### **PART C. ACCOMPLISHMENTS** *(Order by typology)*

Given the limitations in number of characters, please mention the most relevant achievements sorted by the typology that best suits your scientific profile. Please be clear and avoid ambiguities.

Use reverse chronological order within each section. Limit your merits over the past 5 years, except for those which have an extraordinary importance for your CV.

### **C.1. Publications**

Include a full review of relevant 5 to 10 publications.

In case of an article, please include authors in order of signature, year of publication, title of the article, name of the journal, volume, start page to end page.

If it's a book or chapter of a book, include its publisher and ISBN also.

If there are many authors, please indicate the total number of signatories and the position of the researcher (total number/ position of researcher) as for example 95/18.

### **C.2. Participation in Research, Development and Innovation Projects**

Indicate the most important projects in which you have participated (maximum 5 to 7 projects), including a) its reference, b) title, c) funding body and call for proposals, d) name of the principal investigator and his/her institution affiliation, e) date of start and end of the project, f) amount of subsidy, and g) your type of participation, e.g.: researcher, principal investigator, European project coordinator, etc..

### **C.3. Participation in Research, Development and Innovation Contracts**

Indicate the most important contracts in which you have participated (maximum 5 to 7 contracts), including a) title, b) company or entity, c) name of principal investigator and his/her institution affiliation, d) date of start and end of the contract, and e) amount of funding.

### **C.4. Patents**

Indicate the most important patents and other intellectual property in which you have collaborated. Give a) the order of signing authors, b) reference, c) title, d) priority countries, e) date, f) holder entity and companies that are exploiting the patents.

### **C.5, C.6, C.7... Other**

By sequential numbering (C.5, C.6, C.7 ...) please include any other achievements that you deem necessary, such as for example: direction of works, participation in assessment or advisory tasks, membership of international committees, management of scientific activity, editorial boards, scientific awards, etc.

## **FINAL CONSIDERATIONS**

Please remember that all the submitted achievements must be presented concisely, including dates or periods for each performance.

The short CV aims to facilitate, organize and streamline the evaluation process. The use of the individual researcher identifier facilitates access to the published scientific papers and information on the impact of each of them.

**Remember that only CVs submitted either in this format or in CVN abridged version will be taken into consideration.**